

KERAMIC STUDIO

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MANUFACTURER of studio pottery kilns told us recently that the demand for these kilns from individual workers was remarkably large, and as we receive many letters from china decorators who intend to begin pottery work, or have already begun, and ask us for advice, it is evident that the interest in this fascinating craft is rapidly spreading. We foresaw this when we published in *Keramic Studio* the excellent articles of "Clay in the Studio" by Prof. Chas. F. Binns and the thorough treatise of Taxile Doat on "Grand Feu Ceramics."

It is noteworthy that women are leading in this movement, as they are in overglaze china decoration. In Europe the opposite is the rule, women potters are very few and most individual potters who have made a name for themselves are men. In this country men who do artistic work, outside of factories, number only two or three, while women who have already acquired quite a reputation in this craft are many. We will mention among them Mrs. Frackelton, Miss McLaughlin, Miss Perry, Mrs. Alsop-Robineau, Mrs. Worth Osgood, Mrs. Irelan, Mrs. and Miss Perkins, Miss Jane Hoagland. And with the present facilities for firing pottery in the studio there is no reason why the work should not appeal to women as well as men, nor why they should not make a success of it, as they have done with overglaze china decoration.

It is very difficult to answer correspondents who ask us what kind of pottery work we would advise them to do. The field is so broad that no positive answer can be made to such a question. One should follow his or her own individual taste. But in a general way we would say to students: Keep away from factory work or from imitation of factory work. You cannot compete with factories in regard to price. If you must do all the work yourself, or practically all the work, in your little pottery, you will find that this work costs you considerably more than the same work would cost in a factory with its many cheapening processes. You must do better than factories can do. You must carry your body and glazes to a point of perfection which industrial methods seldom reach, decorate your ware with real artistic taste and skill, give the closest attention to your shapes, in a word work always for technical as well as artistic perfection. You will not reach the goal at first, but you will, after a while, if you go at it in the right way, and if you have the persistency and enthusiasm of the true artist. Then, and then only, can you expect to get remunerative prices for your work. The object of factories is to produce much and as cheaply as possible. Your object must be to produce little, but to make a durable, beautiful and original ware, and to force the public to pay your price for it. Artistic work is not often done in factories, but it can be done, artistic work, not works of art. Real works of art can only be the expression of individual skill and taste, and works of art will always bring the price.

The question remains: What are in pottery the best

fields for individual work? Some time ago a letter came asking us if we advised the correspondent to try porcelain at high temperatures. This is certainly to be encouraged, not only because fine porcelains have always been and will always be the most beautiful ware which the potter can make, but because the development of colored glazes at high temperatures cannot, in our opinion, be successfully undertaken on the factory plan. It is essentially a field for the artist. The work requires his touch from beginning to end, and it is fascinating work. But it is the most difficult work and the most costly in the potter's field. It requires not only a stout heart and unshakable perseverance, but a little capital to start with. The experimental period is long and costly. The best kilns go to pieces in a short time and have to be constantly repaired, the loss in firing is heavy, failures many, and financial results doubtful. If you have the courage to face the many disappointments of the porcelain maker and the determination to succeed, try porcelain by all means. If you have not, try something else.

Faience, either decorated with mat glazes or slip painting under the glaze, has great artistic possibilities, and the work is comparatively easy, but for this reason perhaps the field has already been well covered in this country. The charming Grueby faiences have started a craze for mat glazed faiences, and they have to-day altogether too many imitators. The market has been flooded with mat green wares, the work of factories as well as of individuals. The Rookwood slip paintings have also found many imitators. Do not enter this field unless you are satisfied that you can develop something new and truly original. A poor imitation of something which has already been well done would be the greatest mistake you could make.

Stoneware has also great possibilities. The decoration with fine carving of stoneware fired at a moderately high temperature and salt glazed, is one of the old crafts which attained its perfection in the 15th and 16th Centuries, and it can undoubtedly be successfully revived to-day. Or vitrified stoneware (the grès of the French), fired at a high temperature, can be decorated with the varied palette of grand feu colors, but here again, the artist will meet with the difficulties of grand feu work, although not to the same extent as with porcelain.

There is a field which has not been touched by individual potters of the present day, at least not in this country, and which we think should tempt students and artists. It is the field of maiolica or tin glazed ware. Next to Chinese porcelains, the highest prices paid to day by collectors for fine old wares, are for the tin glazed wares of Italy, France and Holland of the 16th and 17th Centuries. And these high prices are not only due to the old age of the ware but to its technical and artistic excellence. It is not for the bulk of the tin glazed production that these high prices are paid, not for the commercial work which was in the 19th Century dethroned by the cheaper English white ware, but in most cases for the beautiful work of individual craftsmen. And, if it is hopeless to try to make cheap tin glazed maiolica in competition with other commercial wares at low prices, there is no reason why beau-

tiful works of art which will command good prices should not be attempted. It will be easy to find a suitable body. The main point will be to develop a glaze which will compare with the fine glaze of the past, and this glaze once found, it can be decorated at a comparatively low fire with underglaze colors applied *over* the glaze, before firing. For a china decorator used to overglaze work, the transition will be easy, the same rules of design and decoration which have been used in the old work will apply to the new, with this difference that colors will sink into the glaze and have the appearance of underglaze decoration which it is impossible to obtain with overglaze colors applied over the surface of porcelain. The decoration will then be durable and one will have the satisfaction of making one's own shapes. The palette of colors developed on tin glaze is exceedingly varied and brilliant, and this field should certainly be tempting to true artists.

We have asked Prof. Chas. F. Binns to write for *Keramic Studio* a series of technical articles on the making of tin glazed ware, and students who wish to try their hand at the making of fine majolica, will undoubtedly find these articles very helpful. The first article appears in this issue.

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In our March number we have published under the name of Nancy Beyer a design for porridge set which was by Miss Emma L. Baker, instructor at the James Millikin University of Decatur, Ill. The design by Miss Baker was not signed and a confusion was made with a design by Miss Beyer somewhat in the same style of conventionalization. If designers would always sign their designs or put their name and address on back (except designs for competition which bear special marks), such mistakes would be easily avoided.

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THE FRUIT BOOK

The Fruit Book, the printing of which was somewhat delayed, is now ready, and is for sale at the same price as the Rose Book, \$3. It contains eight color studies of fruit, seven studies in monochrome, and a number of the best black and white studies of fruit published in *KERAMIC STUDIO*. One of the most important contributors is Miss Jeanne M. Stewart, whose work has been so much appreciated by our subscribers. We have no doubt that the Fruit Book will be as successful as the Rose Book.

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LEAGUE NOTES

The thirteenth Annual Meeting and Exhibition of the National League of Mineral Painters, will be opened at The Art Institute of Chicago May 3rd, 1906. The exhibition is to continue until the 27th, and to be composed of those pieces which pass the Art Institute jury.

On Monday the 28th of May, all pieces conforming strictly to the study course for the year, will be taken to Burley and Co's. exhibition room, where they may be viewed from a comparative standpoint. Mr. Howard V. Shaw will criticise the work. Particular attention is called to the instructions and entry blanks, which will be mailed to all members.

Again we take pleasure in announcing a new member, Mrs. Margaret Daniels, Valley City, North Dakota.

BELLE BARNETT VESEY, Pres.

March 6, 1906.

THE CLASS ROOM—FIRING

The balance of articles on firing will be given in the May *Keramic Studio*. We would be glad to have articles sent in on the firing of a charcoal kiln, also on the gasoline kiln and will pay for them if they can be used.

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First Prize—Anne Seymour Mundy, Coudersport, Pa.

TO the embryo decorator firing seems the most difficult and wonderful branch of the art; and often, at first, there is a mistaken idea that firing will remedy or at least cover up all deficiencies. Such is not the case however, and when a lint spotted tint, particularly so if dusted, comes from the kiln with its defects more glaringly apparent, the delusion is dispelled forever.

No matter how beautiful, how masterful the workmanship, if the colors are under, or over fired, or if the china has lost its glaze in spots, one is apt to feel the time has been wasted and only vexation and disappointment is the result.

But to the careful student, be he (or she) amateur or professional, keeping in mind a few simple rules, there is fascination and even keen delight in making each color express its true value besides the satisfaction of a good work well finished.

A firm hand, watchfulness, with care for each shade or degree of heat, and the firing becomes the breathing soul of art. What could be more beautiful than the privilege of making perfect and perpetual good designs, well executed.

CHOOSING A KILN.

For many reasons nothing so far equals the Revelation kiln with its fire clay fire-pot; and for economy, get one with corrugated tubes as this construction takes the heat more evenly and quickly and lasts longer.

It costs little if any more to fire a No. 6 (the largest studio size) than the No. 4, or even a smaller kiln, so it is economy in every way to choose a large kiln rather than a smaller one.

PLACING THE KILN.

Select a room with a brick chimney, good draft, and as near as possible, if not right in the studio, to save extra steps and precious time. Unless short in stature, be wise and have kiln set on platform at least fifteen inches high, to save stooping over in stacking. Cover this platform with asbestos paper, top and sides, tack down neatly. On top of this, and under the kiln set a galvanized or sheet iron pan as large as will fit in between the legs. This greatly lessens danger in case oil runs over, and is protection from sparks, when drafts are open and the wind blows down the chimney in gusts, causing the flame to splutter out from the sides of the burner. The same effect sometimes comes from water in the oil. Asbestos paper should be tacked on the walls by the kiln from the floor up as high as the top of the oil tank and the stove pipe and its joinings should be wrapped in asbestos paper wired on. Danger is thus reduced to a minimum, so do not be nervous.

FIRST FIRING.

Now and always see that the oil tank is filled some hours before it is needed so that oil may not suddenly stop and often turn back of itself. This is caused by air bubbles flowing into the tank with the oil. As these break, the vacuum produces suction enough to stop the flow of oil. Take the



LILAC—F. B. AULICH

(Treatment next month)

cap off the top of the oil can when firing to permit a free circulation of air or this also may stop the oil.

Get five cents worth of whiting at the grocery, mix with water to smooth paste and with a large coarse brush paint it all over the iron shelves and shelf supports and place these in oven to dry, then in the kiln, with the stilts, asbestos cord, and sheets of platten if you have them. Fire these all, this first time, when you are drying and burning out the fire-pot.

Choose a clear day, for the first firing particularly. Remember that the kiln works on the principle of a kerosene oil lamp in respect to draft. If the wind blows down the chimney or in gusts, or the air is muggy, soot will gather in the burner and on bottom of muffle. On a clear day this will burn off and be carried up the chimney.

Use pinch of asbestos cotton for wick. Do not replace each time. It will last indefinitely. Saturate wick by turning on oil, then let oil drop slowly. Apply match to wick. After one hour drop faster and after four or five hours, a tiny stream. Never at any time let oil extend beyond the wick more than two or three inches. Get the kiln to red, then white heat. Turn the faucet off. Let kiln cool gradually and the dampness and vapors will have gone off and out the chimney and can not settle back on the china and destroy the glaze.

Remember after each firing to immediately refill the tank. Protect the top of the funnel leading to the flow pipe with a bit of wire sieve (the newest kilns have some) and also with a small square of cheese cloth over that to prevent any foreign substance from getting into the pipe to clog them and retard firing. This will doubtless save a plumber's bill later. "An ounce of prevention, etc." Firing all day or so slowly the first time takes more oil than ordinarily, but it "seasons" the muffle or fire-pot and keeps it from cracking seriously, and insures a safe, sure firing of china next time.

STACKING.

Look over the china and see if you need to use the shelves. With many small pieces they are indispensable. Saturate the asbestos wick as before, light, and let oil drop very slowly. It may take an hour to stack the kiln at first, until you become familiar with the colors and know just what colors should occupy certain places in the kiln. It saves time to allow the kiln to be heating slowly while you stack it. The hottest part of the kiln is in the back, on the bottom, and on the side next to the oil tank, and here should be fired carmines, rose pink, ruby, lustre and the purest Roman gold, particularly if for first firing.

For medium heat, place Roman Purple, Marsching's Peach, most of the golds of commerce and any other colors except violets and reds, which require the lightest fire. With too much firing, violet shades turn "milky", Yellow Brown, Yellow Red, Capucine Red, Orange Red, fade perceptibly. Deep Red Brown and Blood Red turn brownish, so does Ruby, although too much oil in case of Ruby will have same effect. Apple Green turns yellowish; Moss and Royal Green get ugly, although Apple Green added to them will keep them from turning brown; Pink turns purple. Some reds rub off if under-fired and fade if over-fired; Pink under-fired looks "bricky"; Yellow becomes more brilliant with hard firing.

The colors which need the lightest fire should be put high up in the kiln and near the door. Do not fire gold within five inches of the door, unless it be liquid bright gold which takes lightest fire. Dusted color must be fired

harder than an ordinary tint. A tint heavily fluxed will take a lighter fire. Pinks must not be put on too thick or they will chip in firing. If there seems to be a doubt as to whether a color is going to chip, give it an extra *slow* firing, particularly at first; this will often prevent trouble. Also place the china high up in the kiln for same reason.

Hard French china will take hardest firing, also Belleek, which has a thin, brittle, hard glaze; but Belleek which has a "palette" as trade mark on the bottom must be fired very lightly and near the door, nothing will ever blister or chip on Belleek but on a palette Belleek colors will fade out dreadfully.

The soft tiles which are used for framing must also be fired very lightly. They are thick and must be supported at the back by a plate, laying the back of tile directly on to edge of plate to prevent cracking. Tiles may also be fired on the shelf at front, though not always as successfully. Never allow anything, even a stilt, to touch Belleek or a dusted tint if you can avoid it. Don't stack on top of Belleek. It is not really safe to set a flat bottomed piece of china directly on bottom of kiln unless there is free circulation of air at bottom. Turn cider or lemonade pitchers upside down in firing to prevent cracking in bottom unless Belleek, then fire high up on a piece of platten or on shelf.

It is better to fire plates, trays and saucers on edge, they take heat more evenly. Examine lower rim of plates or trays. If it be glazed, put tiny stilts between, hanging from top edge of plate to prevent sticking together; but if the edge is rough or unglazed it can be stacked next to a glazed and painted surface, unless it should come next to paste or enamel.

Never allow a piece of china to fit tightly or wedge into any place in the kiln, as it will crack or break. Never stack more than six plates in the same row continuously, as the middle one will be apt to break from the weight. Crackles or a craze in the glaze of Belleek will fire together perfectly. A wash of enamel will almost always save a cracked piece from cracking more. A little enamel mixed with paint and used to paint flower or leaf will prevent also a crack from spreading. Enamel should have hard firing. The less flux is used, the harder the firing.

It is better to dry everything, gold and all, well before putting in the kiln; there are not so many gases to settle and vapors to spoil glaze. Leave front door or spy hole open at first to assist in carrying off gases. Transfers should be dried slowly before firing and then be fired always as high up as possible in the kiln. Do not put middle of a tray or plaque on a stilt or piece of platten and then stack cups or any small articles at either end which being unsupported will warp.

In firing punch bowls, pile stilts up high enough to support base and let bowl rest lightly on edge. The base to a punch bowl if unsupported has been known to slip off entirely. Do not fire punch bowl flat in the kiln, the weight of the sides when hot and soft may make them drop down and fire out of shape. Cups with a standard or legs should have piece of platten to separate them. Stilts are too wobbly. Tall vases or pieces found to be fired more at one end or side than the other, should be marked and reversed next time. Do not put fresh tint or gold right on the sand which may be in bottom of kiln. It roughens it. Dry first. Use sheets of platten for firing buttons. It saves room in the kiln.

If you have a No. 4 kiln with one-piece muffle, do not increase the flow until the oil has been dropping and burning at least half an hour. If you light kiln when stacking,

you need not keep the spy-hole open; but if not lighted until after, leave the small door open twenty minutes to half an hour. By regulation of drafts the heat may be thrown wherever you wish. To make it fire harder near the door, open back and right side slide in the burner. This throws blaze to the front. Too much oil retards firing. An experienced engineer told the writer that if smoke came out of the chimney, more oil was turned on than could be consumed and the firing was retarded. It looks reasonable. There is slight difference of opinion as to this fact. Don't fire when the neighbor's washing is on the line. They may complain of you. Keep a box or pail of sand near the kiln in case of emergency. Water on burning oil is not always best.

If soot drops into the burner don't poke it so that it goes near the oil flow pipe as it may cover the opening, back up the oil and you will have the oil running onto floor from

the funnel. A wire bent at one end is good to clean out soot.

For mending cracks in muffle mix fire clay, asbestos, cotton and water together. If a piece looses its glaze put dusted or highly fluxed color over and fire again.

Watch your kiln carefully after it begins to get red and you will notice a change. It will get whiter inside. Leave it only a minute or two after the change. Then turn off entirely. The critical time is the last ten minutes. Turning on oil faster at the very last adds to the glaze and finish.

Watch carefully at the last. Let your eye become accustomed to the color so that you may note the change more easily. Experience and judgment are needed here. Get to feel every color, every piece of china. Love your kiln as a living thing. Study its moods and caprices and with patience and confidence your firing will be perfect.



FLEUR DE LIS JAR—RUSSELL GOODWIN

Top of vase dull yellow brown. Fleur de lis in several tones of grey violet leaves on several tones of grey green. Ivory white outlines

Second Prize—Sydney Scott Lewis, Georgetown, Ky.

A perfectly fired piece of china should have a uniform glaze. The colors should unite with the glaze and be a part of it not look as if they were baked on. There should be no specks or spots caused by dust or careless handling, no chipping off of enamel or paste. The colors should not look faded, but pure and clear and clean. The grounded surface should not look dull, or oily, or pebbly and scale in places, the gold bright and smooth and not blistered and brown in color with a tendency to rub off. The enamels and lustres should be pure and transparent. To obtain the above results :

- 1st The china must be in the proper condition to be fired.
- 2nd. You must have a first class reliable kiln in which to fire it.
- 3rd. The stacking of the kiln must be done carefully and intelligently.
- 4th. The firing and cooling of the kiln must be carefully and slowly done.

PROPER CONDITION OF CHINA TO BE FIRED

It must be free from moisture, dust and lint, oil, paint and gold that has run over edges and finger prints. Many persons bring pieces to be fired, and if the firers have any conscience about the matter at all, they have sometimes literally to work some time to get it into a fit condition. Often in the bottom of a piece you will find a pasted bit of paper and the price mark under the rims of plates and other articles, streaks of gold, or color, lustre etc. Sometimes in vases and pitchers bits of straw or excelsior, this will burn and create gas and smoke and injure perhaps the whole kiln full of china.

Paste and enamel should be dry and look dull. Lustre tinted surfaces and gold should be perfectly dry. All pieces when color has been dusted on should be carefully wiped, as the dust will fly in the kiln and settle on other pieces. In fact have the piece of china as near perfect in point of material being well put on and as neatly as possible. When that is done the china is ready for firing.

A FIRST CLASS KILN

No matter how perfect the work on a piece of china, if it is poorly fired the work is of no avail. To do good firing one must have a good kiln. There are many kinds on the market. Charcoal, gas and oil. It is generally thought that the oil kiln is the best, and the Revelation superior to them all. As my experience has been with this kiln I shall speak of that. It is clear, convenient, easy to fire, very simple if you have a good chimney connection and strong clean draft. They vary in size from a very small to a very large size.

No. 6 is, I believe, best adapted for studio work. The heat is more uniform in a large kiln than in a small one. For amateur work, a small studio kiln No. 4 is excellent, although I believe No. 3 is taking its place somewhat. The kiln should be set up in a clean dry place, as dry as possible. It is advisable to have a separate chimney, but it is possible to use a chimney with another opening provided the chimney has a good draft, by closing draft in stove while firing. The opening for kiln pipe should be above opening for stove. If other houses are very near, the chimney should be a tall one, taller than the houses.

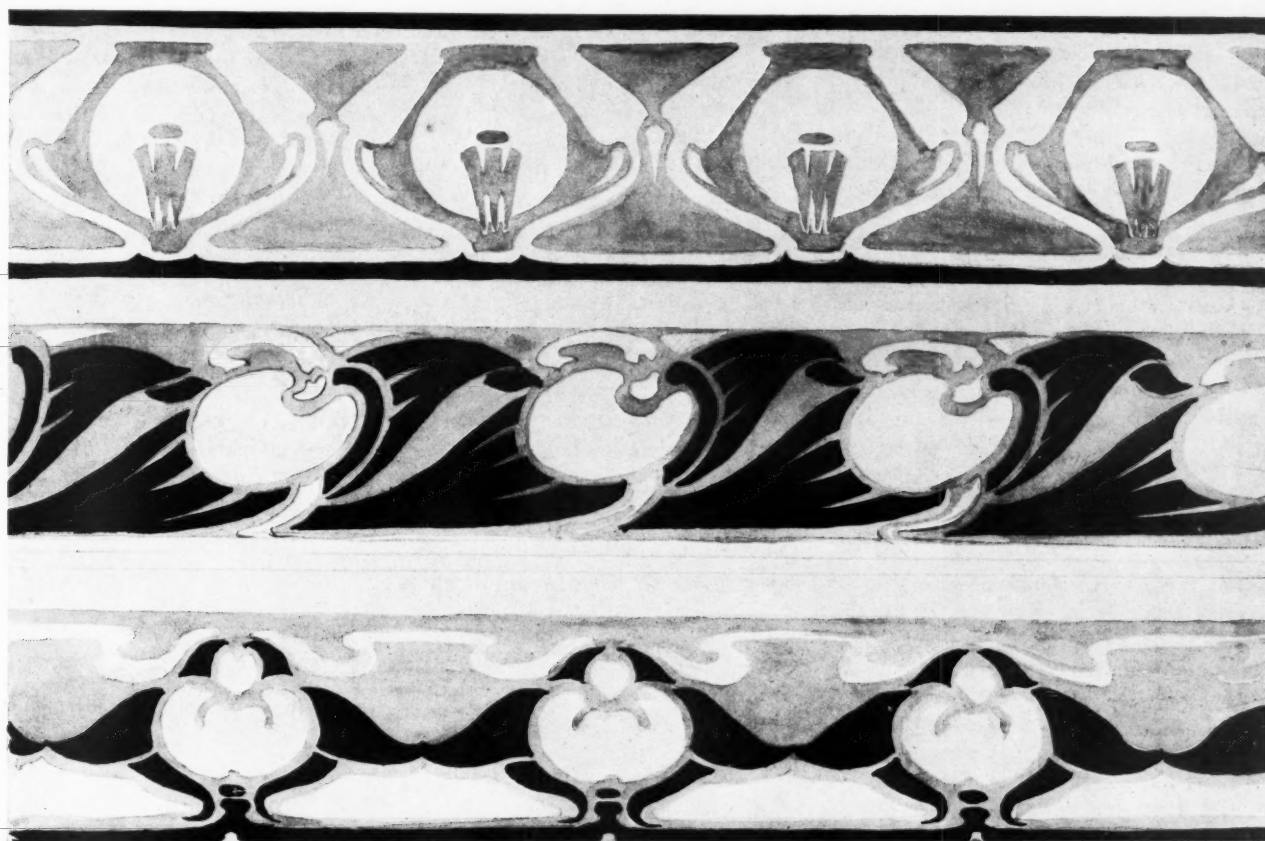
If you use a kiln that has an iron pot, the inside should be covered with white wash or slacked lime, put on the consistency of milk to prevent the iron from injuring the

colors, lustres, etc. A good draft is the main thing, unless the draft is clean and strong the chimney and kiln get clogged with soot, especially if one turns more oil into the burner than is readily consumed. Revelation kilns will fire glass equally as well as china, but glass should be fired alone and a much lighter fire. I have used a No. 4 Revelation for fire years and have never had a piece broken, under or over fired and the glazes have been perfect. I fire color, lustre and Belleek at the same time always with excellent results.

STACKING THE KILN

Have the muffle clean, free from dust, perfectly dry, if there is the least dampness heat the inside thoroughly before stacking. See that all cracks are well stopped with cement. The back of the kiln and the bottom are the hottest. Remember to place French china where it will get the hottest fire, German next, English and Belleek the lightest. English china is not advisable for amateur firing, it is too soft for over glaze kilns and needs a special firing. Some prefer to fire Belleek by itself but if placed in the front of kiln and not touched by another piece or stilt, it will fire perfectly, never stack another piece on Belleek as the stilt will stick and in removing pull off the glaze. Belleek tankards should be placed upside down on a piece of fire clay to prevent cracking. In firing lustres with painted pieces put the lustres in hottest part. Blues require a hard fire and dark blue will glaze like enamel if put on heavy. Carmines and Rose are test colors, and if properly fired in the middle of the kiln the rest of the kiln will be properly fired. Highly fluxed colors such as apple green, pearl gray and mixing yellow go in the top of the kiln, harder colors at the back and gold about the middle but it will fire almost anywhere. Iron reds at the top. Hard enamels like Aufsetzweis in the bottom. As the bottom is the hottest it sometimes happens that things in the bottom are well fired and those on top under fired. This might happen with a tall piece; if so, turn upside down and refire to get a uniform glaze. Mat colors need a medium hard fire.

In stacking use stilts, flat pieces of fire clay and fired out asbestos paper. Never allow one glazed surface to touch another but it may touch an unglazed bottom or rim. Plates and saucers may be stacked flat one on another with stilts between or wedge, but it takes more practice to stack them safely on edge, placed flat is safer. If placed on edge three together is quite enough, if expert at handling you need not use a stilt but place the unglazed edge against the glazed surface. But be sure it will stay placed. Trays and large flat pieces should be stacked on edge. The piece makes a conductor of heat so it will be fired evenly. Cups, small articles may be stacked above one another. Have the larger article at the bottom and be sure the stack is true and steady or a slight jar may upset it and do much damage. Stilts will stick to pieces that have heavily grounded color or on edges when the paint is thick. A large piece placed diagonally is likely to become wedged unless a stilt is placed between the edge of article and side of kiln. It is remarkable how many pieces an expert stacker can get into a kiln, each piece in the right place. There need be no breakage unless the firer is careless, of course there might be accidents, but care will tend to eliminate them. After the kiln has been properly stacked the door should be tightly closed and the kiln is ready for firing.

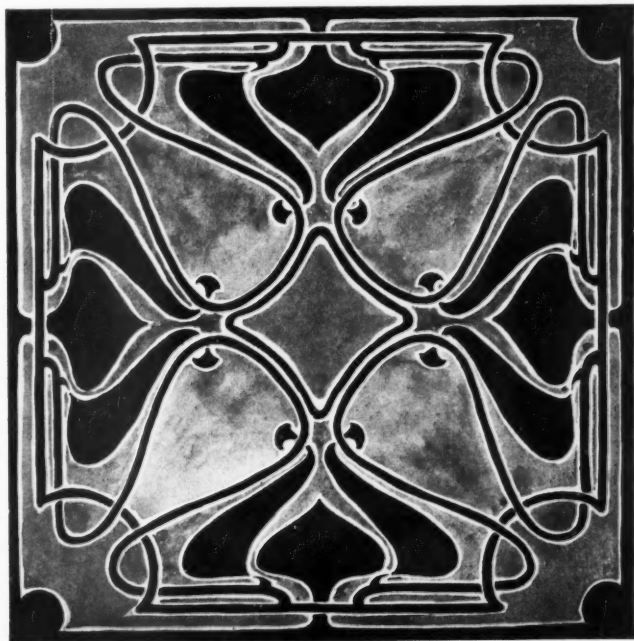


DANDELION, WHITE MOCCASIN AND YELLOW MOCCASIN—HENRIETTA BARCLAY PAIST

THE Dandelion border is intended to be carried out in three tones of green. If used as a band for a vase the ground of vase may be tinted pale green, the lightest tone of the design.

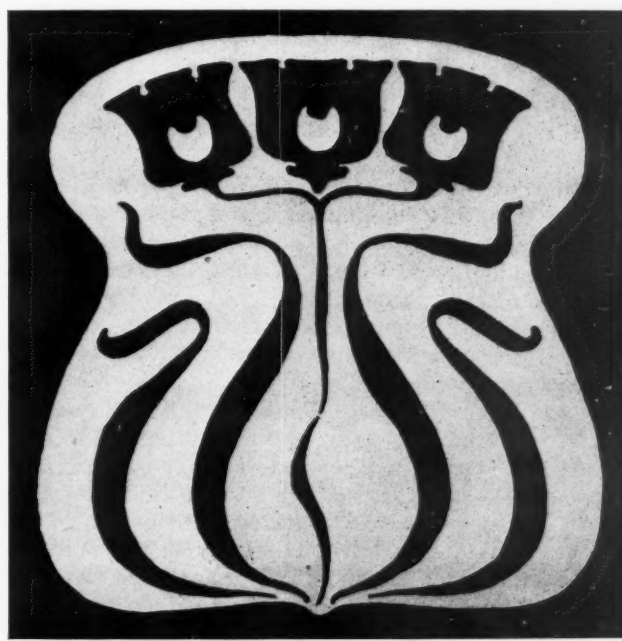
YELLOW MOCCASIN (profile view)—Make the flowers a clear yellow, Albert Yellow or Jonquil Yellow. The leaves and

stems a soft green and the background pale green or grey. WHITE MOCCASIN—Try this in three tones of Copenhagen Blue, leaving the flower almost white. Use silver or platinum for banding and if used on a vase, ground the vase with Copenhagen by dusting. This will make a soft grey blue.



FLOWER BOX TILE—EDITH ALMA ROSS

In two shades of brown or green.



TEA TILE—ALFRED RHEAD

In gold and café au lait with cream white outlines.

FIRING THE KILN

See that all openings are closed, that the burner is clean. Put a small piece of asbestos fibre in burner to use as wick. Turn on oil slowly. As soon as the asbestos fibre is saturated with oil apply lighted match. It will ignite at once. Let the oil flow drop by drop for about 10 minutes so as to heat very gradually. Then let the oil flow in a very fine stream for twenty minutes more and you will soon have a steady flame and a strong roar if your chimney is right. This roar is music to the firer's ear. After the oil has flowed in a fine stream for 20 minutes you can gradually increase the flow until the bottom of the burner is nearly but not quite covered. Watch your chimney and if it smokes turn off some of the oil as you will not increase your heat, or hasten the firing, but clog your kiln chimney with soot. About the end of an hour a dull red light is visible, keep a steady fire and it gradually turns from red to orange. When the kiln is a dull red half way up glass would be fired, but it is very difficult to tell just the exact moment when glass is properly fired, only experience teaches that. If in firing china there is much lustre and colors with much oil, leave the little slide in door open until the first red heat, to allow the gases to escape. If a long piece extends from back to front hold the heat a little longer. A Revelation Kiln when properly fired is a luminous orange, a color comes just like sunshine, then a soft haze making the pieces almost lost to the sight.

Only through knowledge of your kiln can you tell just the moment it is fired. A kiln has a great deal of individuality and must be understood to make the most of its possibilities. A good deal depends on local conditions, drafts, etc. No one can tell you just how long to fire, how rapidly to push the heat, you must learn for yourself. By following general directions this is easily learned. Fire slowly, you can scarcely fire too slowly if the pieces are large. In most cases fire hard. Amateurs as a rule underfire more than they overfire. Above all allow the kiln to cool slowly. Breakage occurs in cooling, in passing too rapidly from red to black. If there is a damper in the pipe turn it on after the fire is out to prevent too rapid cooling. An ordinary Revelation kiln consumes about $1\frac{1}{2}$ gallons of oil and takes from $1\frac{1}{2}$ to two hours to fire, but it depends on conditions, sometimes it takes longer, but rarely less than one and one-half hours. Prof. Edw. Orton of the University of Ohio, Columbus, makes Pyrometrie cones for over glaze firing, these different cones melting at a different temperature. Place cones at back and front of kiln and experiment until you know just how much heat will melt each cone. In house kilns the average heat for firing china is 2,000 degrees Fahrenheit, sometimes a little more or less, not so high for glass.

It is well to speak a little on the effect on colors of an over or an under fire.

Pompadour if fired too hard is gray in tone, underfired it rubs off. The only way to get a good glaze is to fire hard, if glaze is not good fire harder, but not the carmines or pinks, they should be put on for last and light fire.

If the ware has a high glaze before painting it does not signify that it needs a hard fire, for instance Belleek.

Raised enamels should be fired only once, else they will chip off and remove glaze with them. Flat enamels over tint take a lighter fire than over white china, over grounded color lighter still. Pinks if underfired are yellowish. Ruby underfired is brownish, put on too thick will scale, Gold underfired will turn dark and rub off. It will fire

right at a lower temperature than Ruby Purple. Colors if underfired lack glaze and look dirty and will collect dirt. Colors such as Ruby Purple, Red Brown, laid on heavy and underfired will scale. Iron Reds, Carnation, Pompadour, Blood Red and Deep Red Brown generally fire all right in delicate shades, but sometimes fire out completely, or rub off. If the latter, go over with a gold color as carmine.

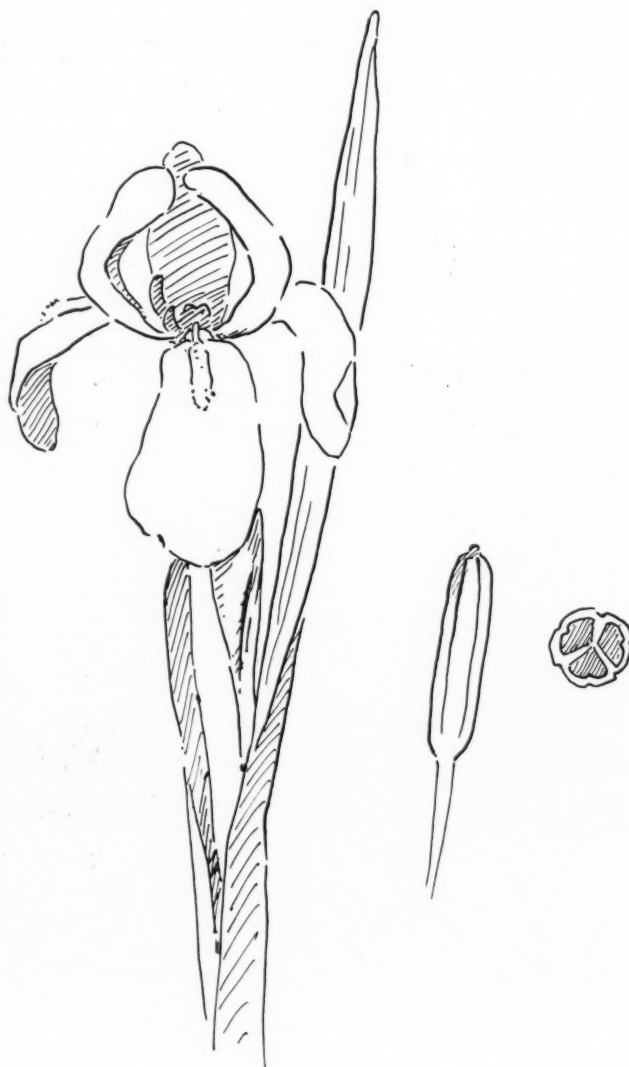
Aufsetzweis and paste stand many fires but if later fires are lighter than the first, are apt to chip. Too many fires are not good for any wares especially Belleek. Three or four are about all that are safe for French, but the result might be good if more are necessary. Large pieces can have smaller pieces placed in them to be fired, using stilts to separate them, do not try this in Belleek. Never crowd the kiln, it is best to have it well filled but not crowded. Do not fire large trays flat. Carmines are test colors, if underfired, yellowish red, overfired, purplish. They will chip and turn yellow if put on too heavy.

Grays lose their strength in firing, Yellows fire stronger.

Black fires with a high glaze, Greens change very little in firing, glaze easily, regular heat.

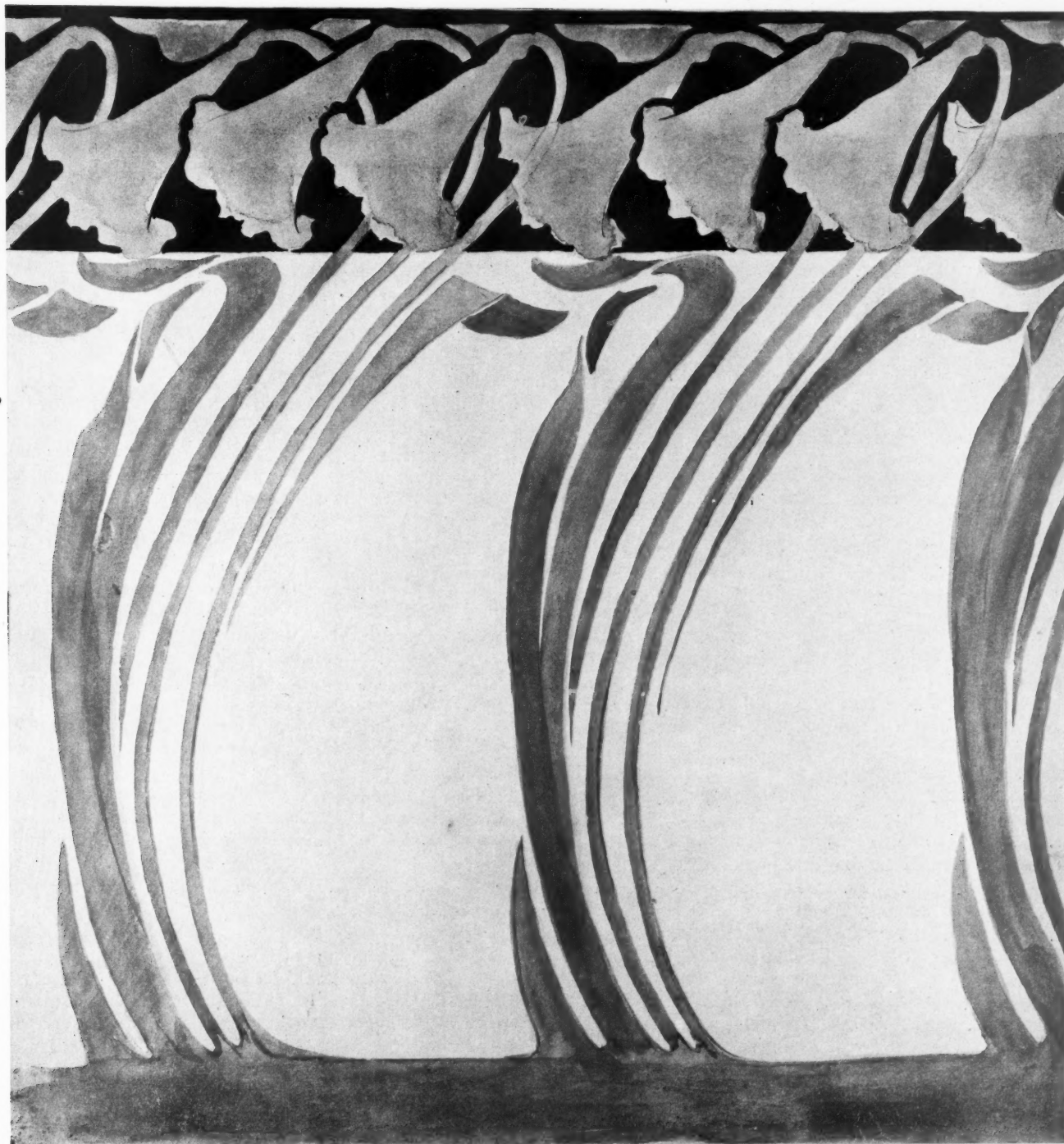
Color that is to have gold worked over it should have a strong fire

Enamels all fire a stronger color than appear on the palette except the Reds.



A beginner in firing might wish to know something about the prices to be charged for firing. Of course they vary. The Revelation Kiln makers send out a price list that I have found very satisfactory. Plates \$1.00 per doz.,

comb and brush trays 20cts., chocolate pots, tea cups and saucers 20 cts., After dinner cups and saucers .15 Trays .40 to .60 Vases .15 to .50 Bowls .20 to .75 Small trays .05 to .10.



JONQUIL DESIGN FOR VASE OR STEIN—HENRIETTA BARCLAY PAIST

Paint the background behind the flowers Dark Green; blossoms, Jonquil or Albert Yellow; leaves and band at base, Olive Green; lower background Ivory.

TIN-ENAMELED WARE

Charles F. Binns.

THE advent of tin-enamels was the outcome of more than one series of events. In very early times the desideratum of the potters was a pure black. The Greeks, after toying with a black pigment upon their red clay resorted to the expedient of coating the clay all over and Homer in his famous hymn to Pallas prays, on behalf of the potters "let all their cups and sacred vessels blacken well." The Romans, also using a red clay, produced black pottery by smothering their fire, and white appears to have been almost unknown. The reason is obvious. The only white coating available was of the nature of a chalk or lime. The surface, though light in color, was more porous than the body itself while the black coloring was fusible and served as a partial glaze.

There was, in ancient Egypt, an attempt to make light colored wares but no white clay was within reach and while some tendency in the direction of coated or engobe wares remained in the near East, the work was exotic and difficult to sustain.

With the advent of Chinese productions, however, the scene changed. The delicate, translucent quality of porcelain appealed to the aesthetic sense of the world as nothing had done before. Black disappeared as darkness vanishes before light and white wares became the ideal.

But still a large part of the difficulty remained. White substances which would stand the fire were hard to find. Some rocks and minerals there were such as chalk, magnesia, talc and quartz, but these could not be easily shaped nor would they solidify on burning. Some of them could be used as a white coating to conceal the nakedness of a red clay and to this purpose they were put but the real porcelain clay, the white substance which was plastic and which would solidify and vitrify under heat was not to be had.

The result of this two fold condition of the demand for white wares on the one hand and of the absence of white clay on the other was that every effort was made to improve the coating which served to conceal the clay. This at first took the form of a slip or engobe covered in turn by a clear glaze, but as the knowledge of pottery-making spread through the lands conquered by the Mohammedan power, a further development took place. It was found that the glaze itself could be made opaque and white and that this would obviate the necessity for an under coating and when the Moors conquered Spain in the twelfth century their potters found an abundance of tin oxide ready to hand. The early wares of the tin-glaze type being exported from Maiorca, the name Maiolica was given and tin enameled pottery has ever since been known by it. A variation was introduced in Holland where, at Delft, the tin enamel was successfully used in conjunction with cobalt blue. Thus the Delft wares are a branch of the maiolica family but with character of their own.

It may be a matter of surprise why this manufacture succeeded in one place and not in another. The composition of the glaze was well known and yet when Van Hamme tried to make these wares in England he met with very indifferent success. The fact is that part of the secret lay in the clay. Those were not the days of weighing and mixing. If a potter found a bed of clay to suit him, well and good. If he did not he made further

search. The difference between failure and success often lay in the fact that the successful man had stumbled upon a deposit of suitable clay. It has since been discovered that the clay of Delft contained a great deal of lime and the English clay which Van Hamme tried to use contained none. The first point, then, for the successful production of tin-glazed pottery is either to find a clay containing lime or to add lime to a clay which may be otherwise suitable.

It may be well at this point to ask why any one should care to make these wares. Are they not out of date and antiquated, have they not been supplanted by porcelain? Yes, and no. In so far as Delft ware was intended to be a substitute for porcelain, then almost unattainable, it has been superseded by the genuine article, but, as sometimes happens, the pottery began as an imitation, developed a quality and beauty of its own and assumed a position from which even porcelain cannot dethrone it. Furthermore this ware can be made of almost any common clay, with the proper addition of lime already mentioned, and can be burned and glazed at quite a low temperature. It affords excellent scope for the designer and painter and for harmony of tone and color quality it is unsurpassed.

Dutch titles are synonymous with fireplace comfort and there is really no reason why these should not be extensively made and used now.

There is yet another reason to justify the making of tin glazed wares. The art of the past must have for every thoughtful person an absorbing interest. First because it was a national art and there is no nation capable of such in the twentieth century because every nation is open to the world, and second, because such works serve to establish a criterion of craftsmanship, a standard of technical value. No artisan can be found to-day whose work will bear comparison with that done long ago. The rush of business, the competition and struggle for existence, never more severe than now, prevent a man doing deliberate and thoughtful work. If, then, work can be done of which there is already a school and for which there is an accepted standard such work is worth while.

Having thus, it is hoped, created an appetite for tin-glazed wares the endeavor will be made to set forth in some detail the necessary technical procedure in their manufacture.

1. *The clay.* A soft, plastic clay, such as is used for making common brick, will answer the purpose admirably. It should not be too fusible. That is, it should burn to a dense vitreous body at a heat not lower than cone 1. If it will stand cone 3 or 4 the glaze will be better. This clay should be procured in considerable quantity, say two or three barrels and should be turned out on a large floor to dry. A barn or an attic floor will answer well. When dry the clay should be broken small with the back of a shovel or almost any kind of a tool which will break the lumps. The smaller the better but the size of hazel nuts is small enough. Some good whiting is now to be obtained and this must be in fine powder. All lumps must be pulverized by sifting through a fine sieve, about 40 meshes to the inch is not too fine. The whiting is now added to the clay in the proportion of one part of whiting to eight of clay by measure. The shovel is quite accurate enough to measure by. A good way is to spread the clay out on the floor and to scatter the whiting evenly over the whole. The mixing cannot be too thorough. The



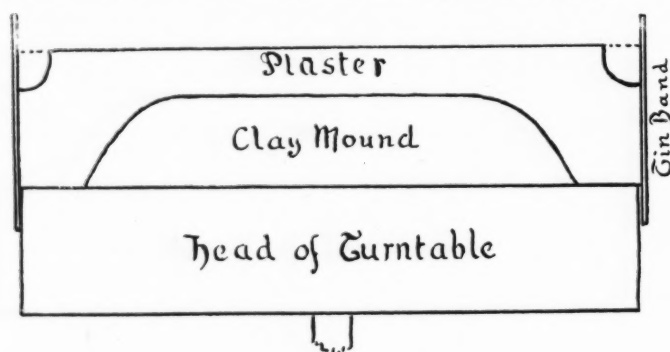
COLORADO SHOOTING STAR—EMMA A. ERVIN

THE name appears well adapted to this plant and although it is not widely known, once seen it seldom passes out of the remembrance. The flower's petals are lilac or pink with a triangular space of white at the lower part. The section just below this is bright yellow and the stamens are a deep purple black. The leaves are yellow green.

clay and whiting should be shoveled over to one side and then shoveled back, repeating the operation three or four times. The whole can then be piled up in a heap or put back into the clay barrels, it will keep for ever.

To prepare for use, a quantity of the mixture should be thrown into water to soak. If wanted for casting the liquid must be vigorously stirred and strained through the 40 mesh sieve. All the lumps may be rubbed through but stones must be rejected. It is a good plan to run the slip a second time through the sieve so as to secure a perfect mixture.

In order to make a clay stiff enough for building or wheel work the slip may be thickened by evaporation or the water may be absorbed by plaster. In fact plaster of Paris is so necessary in clay-working that every would-be potter should be versed in the use of it. A shallow plaster bowl or dish for use in stiffening of clay is not difficult to make and affords good practice. A barrel of plaster* can be bought for about two dollars and will last some time. It will not deteriorate if kept in a dry place.



On the wheel-head or turntable a mound of clay is reared of the diameter and depth of the proposed dish. It should be about three inches deep and as wide as possible, leaving a margin of one inch or a little more. A strip of sheet tin or galvanized iron is procured. It should be seven or eight inches wide and long enough to encircle the turntable and overlap a couple of inches. This is bent around the turntable head and tied firmly with string. This will give a circular pan with the clay mound in the middle. An estimate must now be made of the amount of liquid this pan will hold. Probably the first trial will prove too much or too little but a note made will enable a correct amount to be prepared the second time. The water is to be measured and two and three quarter pounds of dry plaster provided for each quart of water. The plaster is put into the water and allowed to soak for some minutes and then the whole is gently stirred with the hand. Soon a thick creamy feeling will announce that setting has begun but this must be allowed to proceed until the cream becomes really thick but not pasty. It must flow freely. The cream is now poured rapidly into the pan, covering the clay mound to the depth of a full inch or rather more. If the turntable head itself be of plaster the exposed part must be thoroughly soaped or else the new plaster will unite with it. When the newly poured plaster has set firmly but not quite hard the metal sheet should be removed and a groove cut from the plaster on the upper angle as marked in the figure. This is technically named a "handhole" and is to admit the fingers so that the plaster dish can readily be lifted, for of course it is upside down and when in use the top as it now is will

*Calvin Tompkins, 2 Battery Place, New York.

be the bottom. When quite hard a sharp knock will detach the newly made dish from the head and the clay can be removed. Those who need a good many of these dishes and they are always useful, will find it a good plan to make a reverse in plaster so as to avoid the use of the clay mound over and over. If this be done the first dish must be well soaped to prevent sticking and then the metal band is tied around it and the whole filled with liquid plaster as already described, only that enough must be used to provide a thickness of an inch or more on the edge over and above the depth of the dish itself. These plaster dishes must be well dried and they can be repeatedly used for thickening clay as the porous body rapidly absorbs the water from the slip. As soon as a dish becomes saturated it is dried out and used again.

(To be continued.)

✻ ✻

IRIS (Supplement)

Laura Overly.

First fire: Ground lay vase with Azure Glaze, use Fry's Special Tinting Oil.

Second fire: Paint flowers with Banding Blue and Violet, use a bit of Black in Violet for dark shadows.

Leaves: Yellow Green and Dark Green.

Third fire: Tint entire vase with thin Copenhagen Blue and Violet, dust over leaves and background with Copenhagen Grey.

Paint top of vase very dark, use Dark Green, Violet and Copenhagen Blue.

✻ ✻

SHOP NOTES

Green & Co., Chicago, have moved to their new location at 934 Fine Arts Building.

On May 1st., M. T. Wynne will remove to her new location at 39 West 21st street, between Fifth and Sixth avenues, New York.

✻ ✻

POPLAR DESIGN FOR VASE

Sabella Randolph

No. 1. Sky dark greenish blue at top, shading through yellow to red. Use Dark Green No. 7 with a touch of Banding Blue for the dark greenish blue, use this also for outlines of poplar and the line of trees along the horizon, for yellow use Yellow Ochre and for red, Orange or Flame Red. For the middle distance use Ochre with a touch of Red and Dark Green No. 7, leaves touches of this color through poplar tree, for poplars and foreground use Brown Green with a touch of Dark Green No. 7, for the large stone at left of poplar use Red and Dark Green No. 7 thin with a touch of Ochre. Before painting tint the whole vase with Ochre and fire, after finishing tint the whole vase with Pearl Grey and fire. This will give a harmonious color throughout and an even glaze.

No. 2. Tint the vase with Grey Green and fire. Second fire tint sky lightly with Ochre, go over middle distance with another tinting of Grey Green, make line of trees along horizon, foreground and outlines a darker grey green, poplars and large stones a blue grey green, using Dark Green No. 7 with a touch of Banding Blue. Third fire tint with Pearl Grey.



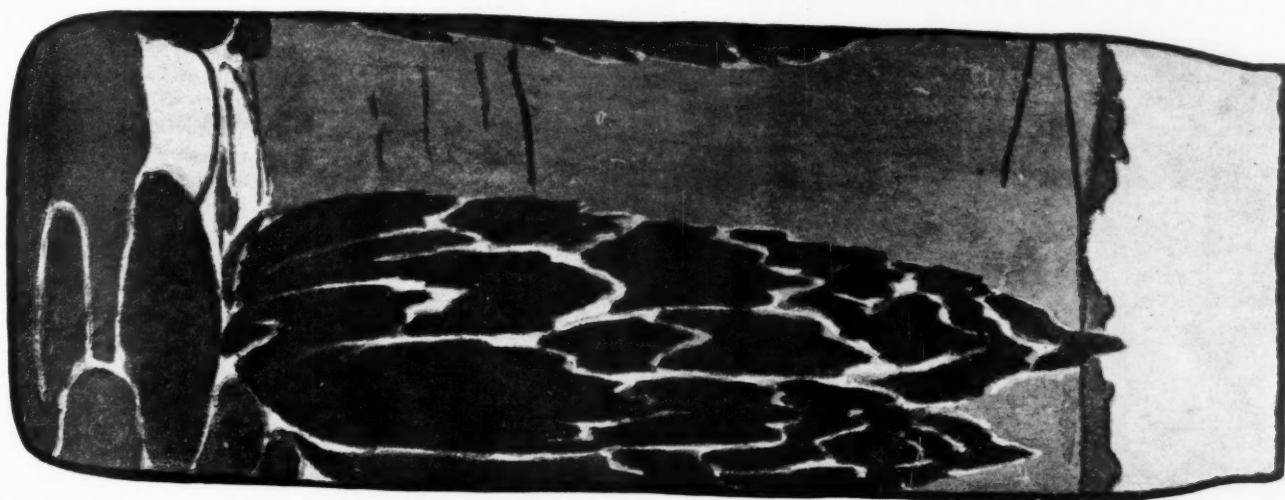
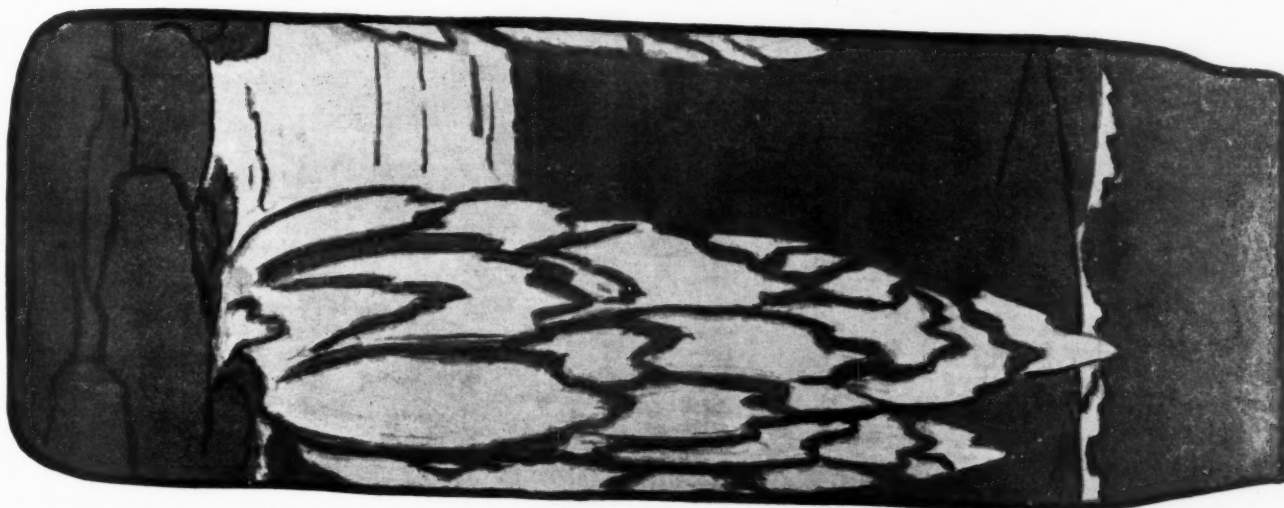
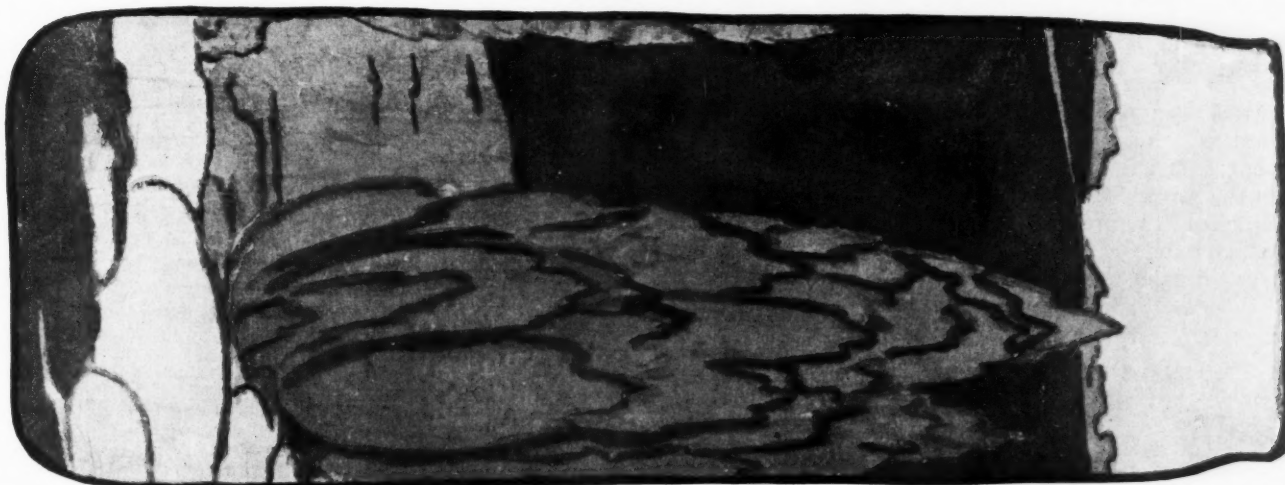
APRIL, 1906
SUPPLEMENT TO
KERAMIC STUDIO

IRIS—LAURA OVERLY

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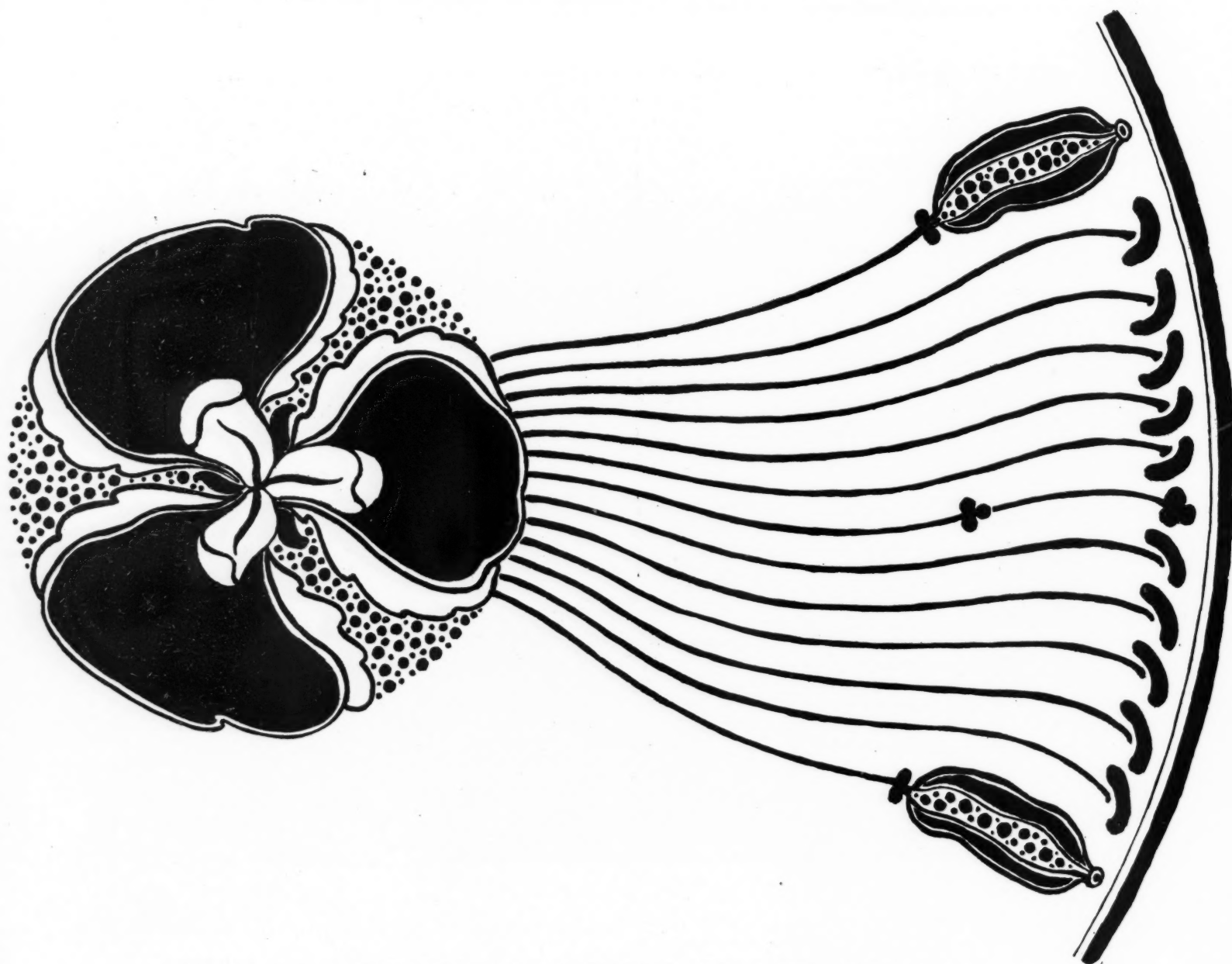
POPLAR DESIGN FOR VASE—SABELLA RANDOLPH

TIN GLAZED WARE

WE are so much in the habit of supposing that whatever is to be known of pottery is known to us that it may come with somewhat of a surprise to many of our readers to learn that at least two kinds of ware are not and never have been manufactured in Great Britain, says a special contributor to the *London Pottery Gazette*. These are known as tin-glazed ware and hard-paste china. Of the hard paste china we do not propose to say anything at present; but a few notes on tin-glazed ware—not so much upon the historic wares of the past, as on the regular everyday make of the present—may not be uninteresting. Since man first made ware, the question of how to provide the porous, rough, unpleasant-feeling surface of the biscuit with a smooth, impervious, easily cleaned skin has been a matter of study and experiment. The hard, semi-vitreous clays, resisting a high temperature, and rich in silex, lent themselves readily enough to salt glazing; but this is an expensive, difficult and somewhat risky process.

The suitable clay was not always to be found, and salt, especially in those countries where it is taxed, was a by no means economical article to use for the purpose. Someone having a softer and less refractory clay to deal with hit upon the use of galena; someone else tried red lead, and a vast quantity of cooking ware were and still are made on these lines.

The surface of galena and lead-glazed wares is excellent—bright, clean, generally uncrazed and easily washed—but it leaves a good deal to be desired; it is transparent, and the dark red or yellow of the ordinary biscuit takes on a still deeper tone. Then, again, they are both very readily attacked by acids, some of the lead glaze being easily dissolved by lemon juice. This, however ignorant the peasant might be, he discovered, and was eager to find a ware free from this serious defect, and more pleasant to the eye than the rough red ware. Someone, who, can never be known, discovered that by fusing metallic tin and lead together, oxidizing the mass, adding to the com-



INSIDE OF FLEUR DE LIS BOWL—HELEN PATTERSON

bined oxide a little salt and silica, fritting these together and grinding up the result to a fine powder, produced an opaque glaze that gave to the commonest clays a superior appearance. Slowly, inch by inch, as is the case with all human discoveries, a finer and finer frit was discovered, a purer and purer glaze obtained; till at last a glaze, so white, so pure, and brilliant was evolved that it compared, and not unfavorably, with the white porcelain of the east. Away back in the Middle Ages the Italian potters produced results that have never been surpassed, so much that for the last two or three centuries this class of ware has made no progress whatever.

The cheapening of white earthenware has doubtless had to do with this, for the French, Italian and Iberian makers of "tin-glazed" wares have really retrograded from the positions of their forefathers. A few, such as the manufacturers at Nevers and Blois, make a really high-class and artistic ware, but the great majority confine themselves to making cheap basins, plates and cooking vessels, sold for a few pence in the markets of their little country towns.

The decoration, of the roughest and crudest character, is, as almost all national pottery is, of strong and glaring colors; for this glaze readily lends itself to colors that are almost the despair of the white earthen ware maker. The brilliant scarlet, which is the desire of our home potter, is easily produced on this class of goods, and the greens, blues and oranges take on a brilliance and purity all their own.

The ware to be seen in any market town in Southern France, Spain, Portugal or Italy, is almost invariably of an inferior, dirty yellow gray color, and consists of bowls, plates and jugs, made on the wheel, and showing in the form and outline a certain pleasantness to the eye, which is almost always the characteristic of a purely hand-made article. The decoration, done with a few sweeps of a dauber, is crude; a cottage with a tree, roughly sketched flowers, or those primitive forms that the peasant farmer of every land seems to like. In Britany one or two factories make a quantity of rough ornaments, many of which, owing to tourists, are brought over to England as mementoes. These are a little better; but with very few exceptions the ware is of the roughest and crudest character.

Those who have seen really fine specimens of this pottery would scarcely recognize the kinship of the present degenerate wares. There are in existence specimen plates (the writer has in memory the remains of a dinner service) on exhibition in a little place abroad, which it would puzzle any man to distinguish from first-class china or earthenware, so long as he was not permitted to handle it; and which is quite equal in appearance to any first-class white ware. Of course, it is softer, and more easily chipped and broken, yet the pieces, for there are several, are wonderfully free from crazing, though a century or more old.

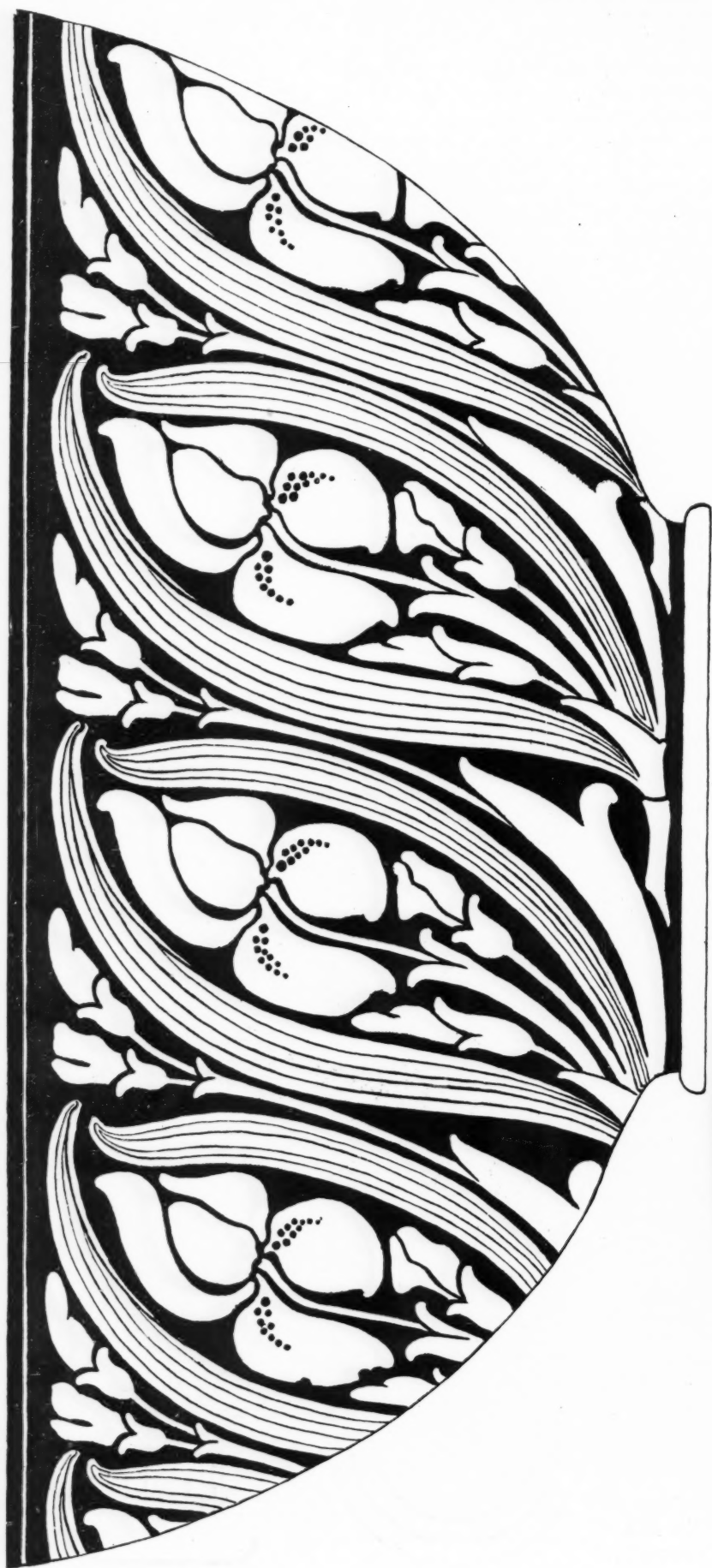
This ware, except in the hands of a few specialists, it is probable, will gradually die out of common use. A few who work in reproducing copies of the great masters of the art, or making ornamental pieces on the same lines, may continue for many years to come; but the ware seems likely, as an ordinary article of commerce, to be doomed. Its makers are seeking new means and methods; for although to produce a poor article is very easy indeed, the purity and beauty of the best extant specimens are difficult and expensive to attain. The increasing price of tin and the cheapening of ordinary white ware must bring it to an end.

STUDIO NOTE

Miss E. E. Page, of Boston, goes to Europe in April for a course of art study.



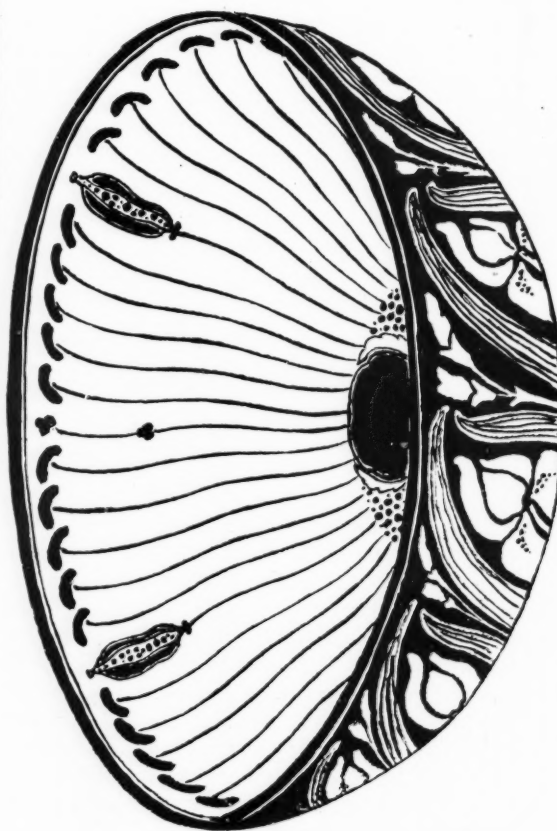
MARIPOSA LILIES—M. E. HULBERT



FLEUR DE LIS DESIGN FOR BOWL

Helen V. Patterson

EXECUTE this design in yellows, orange and browns on a gold ground. Tint the inside of bowl a cream tint, and execute design in gold.



THE CRAFTS

WOOD CARVING AND PYROGRAPHY. LEATHER AND METAL. BASKETRY, ETC.

Under the management of Miss Emily Peacock, Room 23, 22 East 16th St., New York. All inquiries in regard to the various Crafts are to be sent to the above address, but will be answered in the magazine under this head.

All questions must be received before the 10th day of month preceding issue and will be answered under "Answers to Inquiries" only. Please do not send stamped envelope for reply. The editors will answer questions only in these columns.

THE MAKING OF A CANDLESTICK

Frank G. Sanford

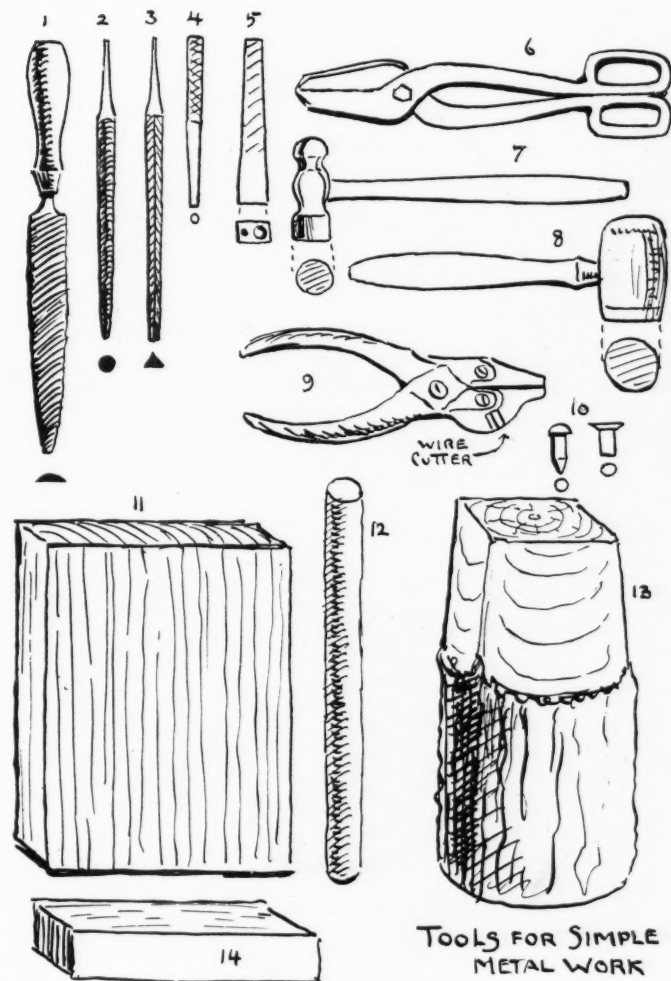
IT is the purpose of the following chapter to describe the construction of some simple candlesticks in sheet metal. There are few tools required and the processes involved demand little skill. Of course one may be as painstaking as one wishes or is able, but fair results can be gotten by an absolutely untrained worker.

The writer believes in the use and the mastery of a few tools. Although it is true of the Occidental craftsman that in his finer work he depends upon a great many delicate tools—all lovers of the beautiful should know that a great deal can be accomplished with a small equipment.

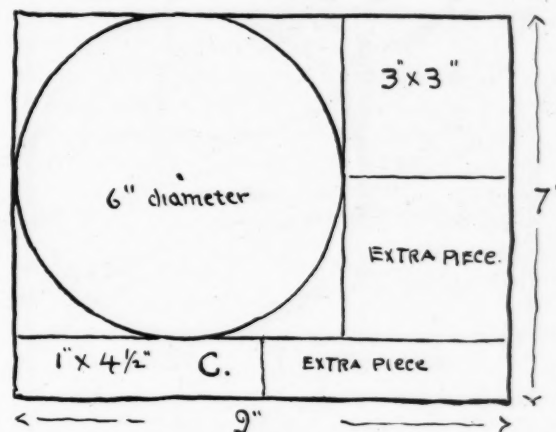
With this preface let us consider the needs for simple metal work.

The following equipment with a few accessories mentioned in the text, will be quite sufficient. (See the plate illustrating tools Illus. No. 1.)

A strong table or work bench which will not vibrate under pounding. (A vise while not necessary is most desirable.)



No. 1.



No. 2.

A piece of soft sheet brass, gauge 19 or 20, 7 x 9 inches cost about 20c. or a piece of copper ditto cost about 25c. retail.

A hard wood mallet—length of head 3", one end of head ground or cut to a hemisphere.

A pair of tinner's shears length 10".

A half round single cut file length 8".

A medium size round file.

A small brad or nail set.

A ball pin hammer head 2 1/2" or 3".

A small rivet set.

A pair of wire cutters and pliers combined.

A block of 2" oak, maple or other hard wood squared on one side or more and not less than 9 x 12".

A section of hard wood log at least 5" diameter about 8" long and square on one end.

A round hard wood stick or metal bar 3/4" or 1" diameter.

An old flat iron or scrap of smooth iron or steel—not too thin.

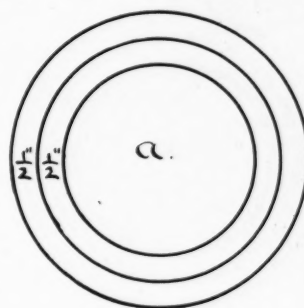
An ordinary draughtsman's outfit consisting of pencil, eraser, rule, compass, thumbtacks and triangle.

THE CONSTRUCTION OF A BRASS CANDLESTICK OF THREE PIECES.

The base.

Consult illustration No. 2. In one corner of the 7 x 9 metal sheet describe a 6" circle close to the edges.

Draw the other plans upon the sheet. Cut out the square which contains the circle and then trim the metal



No. 3.



away accurately to the curve. A word here about the use of the shears. Cut near the point, not at the point for it takes far less strength to cut near the point according to a well known principle of leverage.

File away all splinters and uneven places with the flat side of the half round file.

Describe two circles at half inch intervals inside the disk, see A Illus. No. 3.

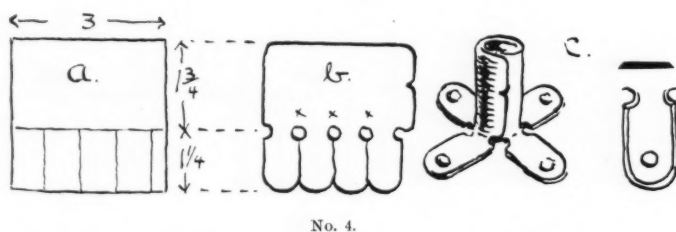
Set the log section (see Fig. 13, Illus. No. 1) in the vise if you have one, if not it may be screwed to a bench.

Holding the metal disk slightly tipped on the end of the log, beat with the mallet between the first and second circle as shown in Illus. No. 3 B. constantly repeating this until an even bend is formed of any depth you wish as C. The outer edge will wrinkle but can easily be tapped smooth.

Light strokes many times repeated, will accomplish more than a few heavy ones. Finish by filing the edge even and true.

THE HOLDER.

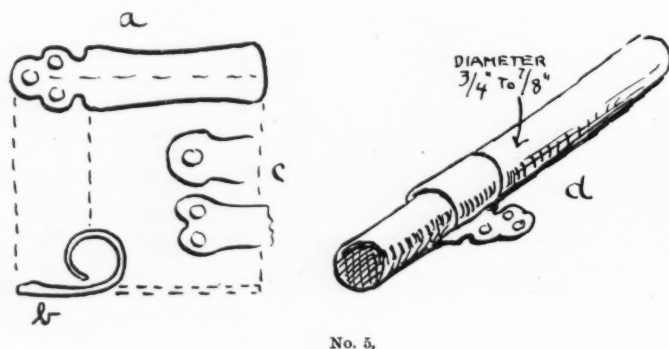
Cut out the second piece measuring 3 x 3, Illus. No. 2, and square it even and true at the corners. Mark the lines as shown in Illus. No. 4. A and then snip and file



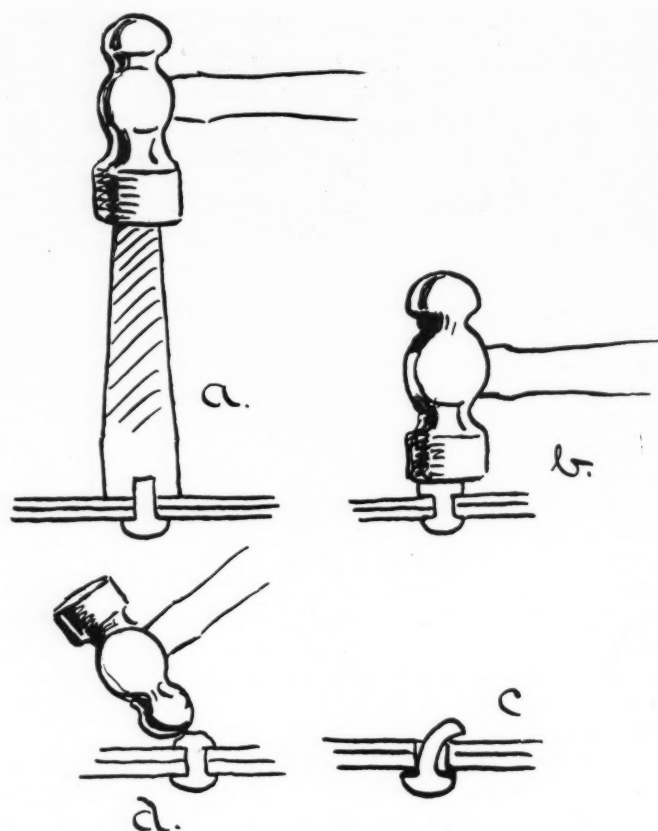
to the shape shown in Illus. 4 B. You will find that with the three files in your equipment a great variety of shapes may be obtained. At the corners punch the holes as shown at x x x Illus. 4 B and then cutting exactly upon the lines to these holes the leg pieces are produced. This piece may now be bent and beaten about the curved sticks which by the way, should be $\frac{7}{8}$ " diameter—the diameter of the common candle.

The leg pieces are next bent out to a right angle with the pliers and their upper edges beveled with the half-round file, Illus. 4 C.

Holes are then punched in the ends—one hole in each piece.



No. 5.



No. 6.

THE HANDLE.

Cut out C Illus. No. 2 and file one end to resemble Illus. No. 5 A or any other simple curved pattern.

Bend up this piece neatly and tightly around the stick.

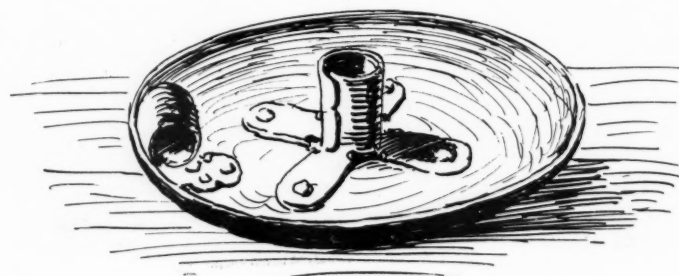
Punch holes as indicated.

All punching should be done upon the end of a hard wood block and the raised edges of the hole carefully filed down smooth.

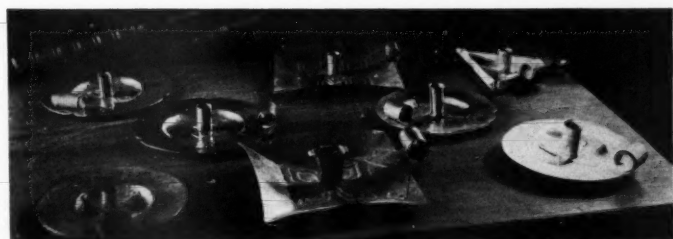
It is essential to good rivetting that these holes be exactly the same size as the rivets used.

Copper rivets may be purchased $\frac{1}{4}$ " long and about $\frac{1}{8}$ " thick for 40c. a lb. These are the easiest to handle but do not look well upon brass. Brass escutcheon pins $\frac{1}{8}$ " thick and $\frac{3}{4}$ or $\frac{1}{2}$ " long may be gotten and cut to $\frac{1}{4}$ " length with the wire cutters.

All rivetting is done upon the metal block. Place the rivet through from underneath and then close it down with the rivet set as in Illus. No. 6 A. Tap the top down lightly until it resembles B in Illus. No. 6. By no means hammer it down smooth and thin as it will then have no strength.



No. 7.



No. 10.



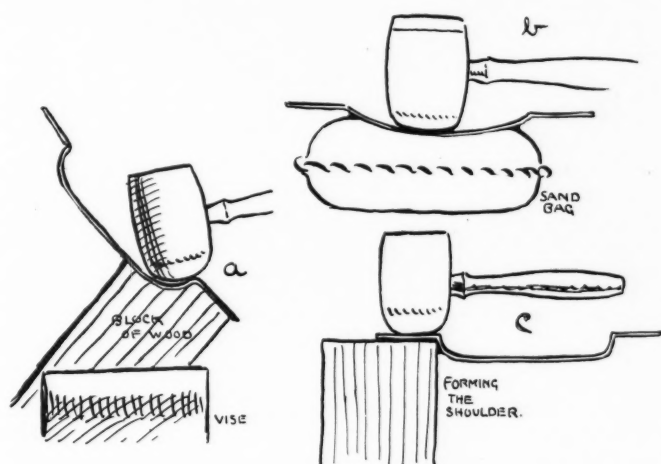
No. 11.

A common accident in rivetting due to too large a hole, and too long a rivet, is shown in C Illus. No. 6. Finish the rivet as D.

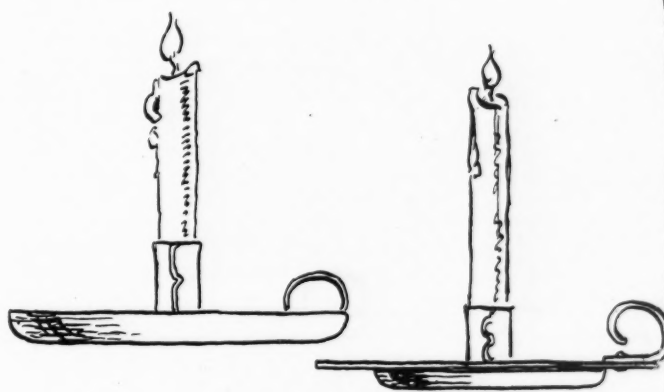
The finished candlestick should resemble Illus. No. 7 or those in the photograph.

to resemble A Illus. No. 8 or by beating upon a leather or heavy canvas pad filled with sand, like Fig. B. in same Illustration.

B shows the first position and C the forming of the shoulders.



No. 8.



No. 9.

Clean the metal with any good metal polish, or a weak solution of nitric or sulphuric acid and water.

Sawdust is excellent as a first drier, then polish with a coarse cloth.

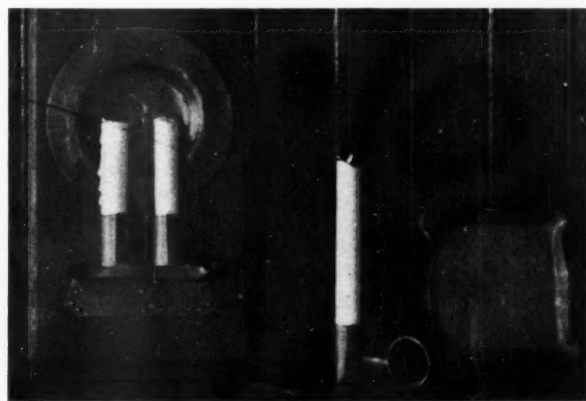
Heat the cleaned metal and rub a thin coat of bees wax all over to prevent discoloring by the air.

Another simple form of base like those shown in the photo is made by sinking the middle part of the metal disk to resemble a dish form.

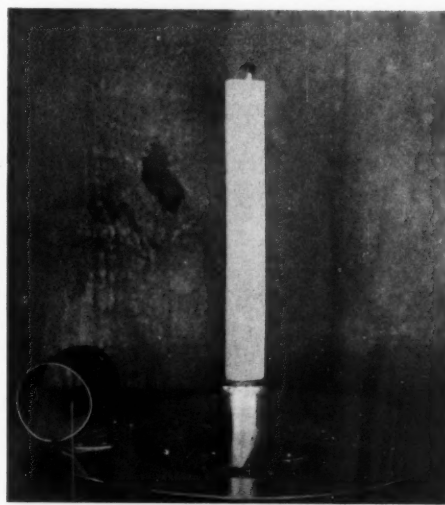
This may be done either over a wood block formed

The element of beauty in these simple candlesticks is obtained by the adjustments of parts, or proportion and in the filing of the smaller parts as the handle and spreading feet of the socket.

The straight sided candlesticks shown in Illus. No. 11, 12 and 13 are made by beating the sides down over the end of the square block. In other respects they are made in the manner already described.



No. 12.



No. 13.



Newcomb Pottery.

EXHIBITION OF ART CRAFTS

THE Fourth Annual Exhibition of Art Crafts was held last December in the Art Institute, Chicago, Ill. It was gratifying to note how much good work was sent. There was decidedly more metal work than any previous year, and the exhibition of pottery and porcelain was exceptionally fine.

Newcomb College sent a splendid exhibit of pottery, woven linens and embroideries, each piece, whether in clay, flax or silk, showing thought and care from the beginning to the end.

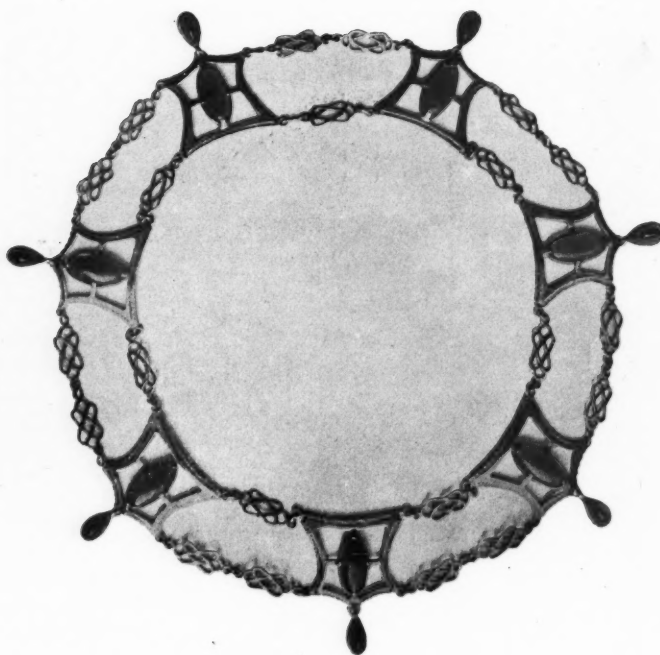
The Robineau porcelains filled two large cases which were the central feature of one of the large galleries. In the case of light color pieces a white silk mull over a dull white made the colors appear as jewels. In the case of dark color pieces dark grey silk muslin over light grey



Porcelain Coupe—Mrs. A. Alsop-Robineau.
Cat design, mat ivory glaze. Inside, lemon yellow crystalline glaze.

satin finish made quite a charming contrast to the reds, blues and rich greens. Heretofore such expensive settings had only been accorded the jewelry but it was thought that the porcelains warranted the change, and it is one of the features of the Art Institute exhibitions that special attention is given to backgrounds.

The Grueby Faience Co. sent a very interesting exhibit, their panels and tiles were exceptionally good.



Silver Necklace, set with green onyx—Emily F. Peacock.

The overglaze decoration of porcelain showed rapid strides in the right direction. The Atlan Club display was excellent, both in design and color, also the work sent by Miss Middleton, Miss Dibble, Miss Peck and Miss Cole.

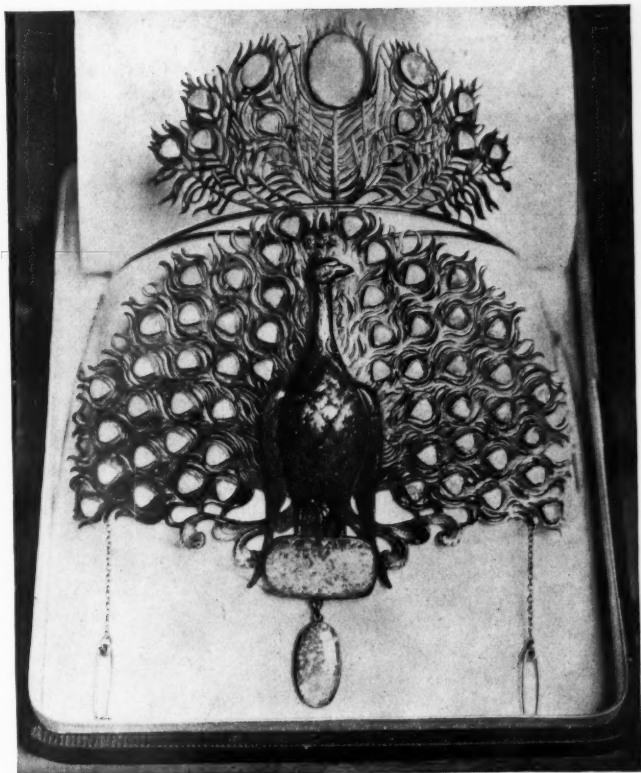
The Wilro Shop had beautiful illuminated leather, and Miss Fleige's work in tooled and cut leather was most interesting. The Swastic shop sent also illuminated leather.

The table silver from the Handicraft Shop, Wellesley Hills, Boston, Mass., filled a large case and well represented the workers. H. E. Potter and E. Stephan also exhibited very fine pieces of table ware, many of their spoons were quaint shapes and enamel was used in the handles. The exhibition of silver jewelry was most interesting and came from the following workers: the Misses Barnum and Carson, Miss B. Bennett, L. C. Lavaron, F. E. Mann, J. Prewton, Emily F. Peacock, I. W. Sanberg and others.

Chas. F. Eaton of Santa Barbara, Cal., exhibited lamps



Newcomb Pottery.



Tiara and Corsage ornament, colored gold and peacock opals—Leonide C. Lavaron.



Grueby Faience Co., Tiles.



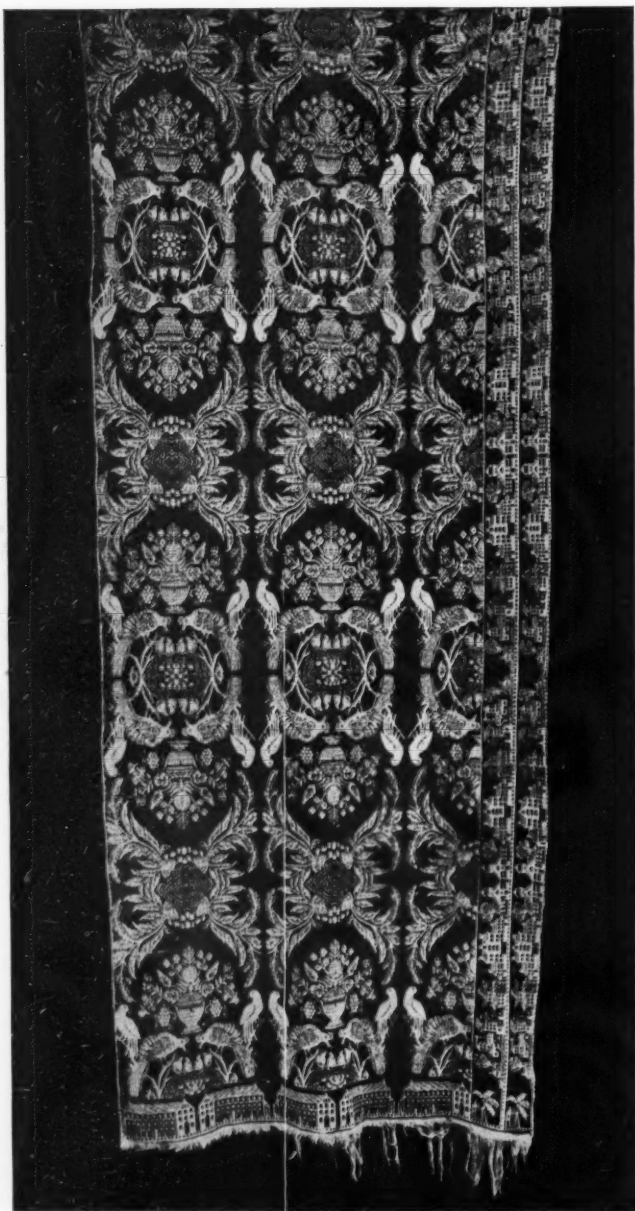
Hat Pin, silver and jade—Essie Myers.



Pendant, silver with blue agate—B. Bennett.



Porcelain Vase—Mrs. A. Alsop-Robineau.
Dragon Fly design, mat green and brown glaze.



Old weavings made in Bethlehem, Pa., in 1820.

in iron, copper and brass repousse, also some very unique and practical night lamps.

H. D. Murphy had some of his original and excellent mirror frames, E. G. Starr and Peter Verberg some of their well known and beautiful bindings, Mrs. Albee some Abnakee rugs, and the California and Arizona Indians a collection of wonderful baskets.

ANSWERS TO CORRESPONDENTS.

H. A.—Read the editorial in the July 1905 *Keramic Studio* on the "Conventional" it will be of assistance to you. In a general way conventional work on china is any treatment of design not purely naturalistic.

For school children's clay work we should think a little polishing with a tool in the leather hard state and a little color oxide rubbed in would be enough finish, but the majolica glazes or the soft Limoge glaze could be used. They are kept by Drakenfeld & Co of Park Place, N. Y. If you fire up to cone 1 or 2, the mat glaze recipes given by Prof. Binns in the November 1905 *Keramic Studio* could be used.

The Photo Chromotype Engraving Co. of Philadelphia will do printing in colors for you very well. Then there is the American Colortype Co. of New York and Binner & Co. of Chicago and many others.

Mrs. S. A. R.—If your burnish silver has turned dark on your steins try any good silver polish, if that will not remove the tarnish, the only suggestion we can make is to repaint with Roman Gold which will give a green gold effect and will not tarnish.

E. W.—You will find a study of hops for a stein in the October 1905 *Keramic Studio*, a design for chocolate pot in July 1899 and for tea set in May 1900 *Keramic Studio*.

Mrs. J. S. D.—For a dinner set it is not necessary that anything but the regular dinner and service plates, platters and vegetable dishes be of the same design although it is rather better to keep the same color scheme throughout, but not absolutely necessary. The salad, game, dessert, fish, oyster and coffee sets may be different, also fruit, ice cream and punch and lemonade sets should be different. The poppy design in red, gold and black could be interesting, you will find an elaborate article on the poppy in the *Keramic Studio* for October 1901 which will be of service to you in designing.

Mrs. E. L. K.—If you have made your Roman Gold exactly according to directions in *Keramic Studio* of December 1905, and it can be scratched off with the thumb nail, it has been badly underfired. It is not absolutely necessary to use tar oil with the fat oil for gold, but one half of each is generally used.

Mrs. M. McG.—It is impossible to say just what is the trouble with your silver not knowing whether it was of a reliable make. Whether it is a flat decoration or raised, we should advise going over it with gold, as silver is very unsatisfactory as a general rule in over glaze decoration, burnish it smooth first. There is no reason why the silver should not be mixed the same as gold.

MARIPOSA LILIES

M. E. Hulbert.

THESE lilies, the "Anemones", grow on the slopes of foot hills but come very late in the spring.

The petals of the flowers grow from a white to a delicate lavender in color and are a yellow green where the dark marking is and there they are quite hairy.

The pistil and stamen are yellow and the leaves are a blueish green.

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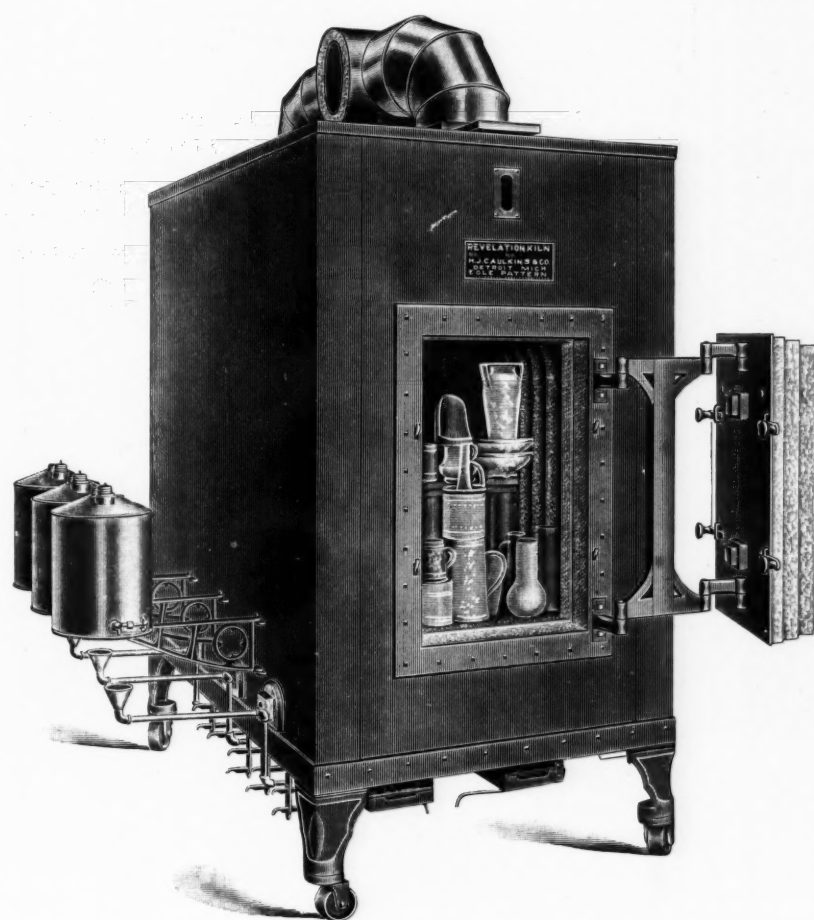
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H. J. CAULKINS

M. C. PERRY

It is with pleasure that we publish the following voluntary letter from one of the highest authorities in the Ceramic world to-day. Those who have followed the masterly articles on Grand Feu productions, by Taxile Doat, in this magazine, will appreciate the importance of testimony from such an unquestionably high source.

(The accompanying cut will show the kiln referred to in the letter.)



SEVRES, FRANCE, March, 1905.

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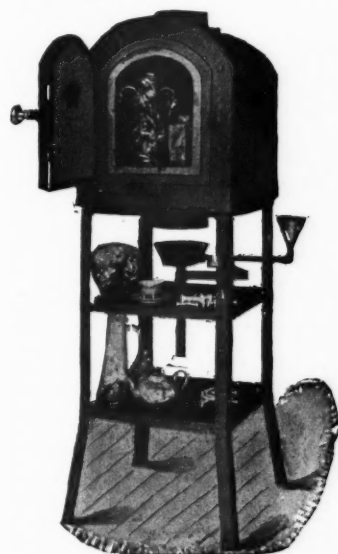
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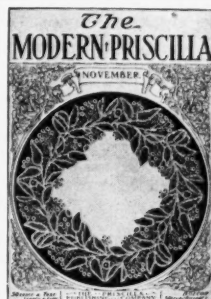
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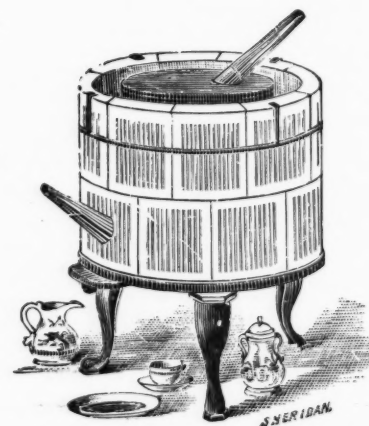
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Monthly Design Competition

June Competition Closes April 15th.

The color study for June will be the single yellow wild rose by Ida M. Ferris. It is proposed to fill the June number with roses, naturalistic studies, decorative and conventionalized applications. For furtherance of this plan the competition has been arranged as follows:

Naturalistic Study of Roses

Wild or cultivated, arranged in panel 8 x 10 inches, black and white wash drawing. This must be accompanied by *explicit* directions for execution in mineral colors.

First Prize, \$8.

Second Prize, \$5.

Decorative Study of Roses

Wild or cultivated, arranged in panel 8 x 10 inches, black and white wash drawing. This must be accompanied by color scheme and application to some tall ceramic form.

First Prize, \$12.

Second Prize, \$8.

Salad Set, Bowl and Plate,

Motif conventionalized. Rose, wild or cultivated, black and white wash drawing to be accompanied by a section in color and careful directions for execution in mineral colors.

First Prize, \$10.

Second Prize, \$6.

Open to Everyone

No one is excluded—Non-subscribers, foreigners, former prize-winners, are eligible. Mark with fictitious name or sign, same to be on envelope enclosing name and address of competitor.

A color scheme should be sent with each design, at least a section of the design in colors. Between two designs of same merit, the prize will be awarded to the one accompanied by the best color scheme.

Designs must not be traceable to any existing pattern. All work should be mailed flat. Designs receiving mention will be considered for purchase. Send return postage for all designs submitted.

Each design must be made separately and not overlapping another. Any number of designs can be submitted by one person.

Designs from foreign countries should be sent by mail, *not* by express or Parcels Post.

The Jury reserves the right to withdraw any prize for which there is no sufficiently worthy design.

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